



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



AUG 02 2013

Neil E. Burgess
Kern River Cogeneration Company
P.O. Box 0478
Bakersfield, CA 93380

**Re: Proposed Authorities to Construct / Certificate of Conformity (Minor Mod)
District Facility # S-88
Project # S-1130418**

Dear Mr. Burgess:

Enclosed for your review is the District's analysis of your application for Authorities to Construct for the facility identified above. You have requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This project consists of Kern River applying to implement the previously approved ATCs of project S-1111099 into the Districts PSD permit

After addressing any EPA comments made during the 45-day comment period, the Authorities to Construct will be issued to the facility with a Certificate of Conformity. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,


David Warner
Director of Permit Services

Enclosures
cc: Gerardo Rios, U.S. EPA - Region IX (via email)
cc: Steve Davidson, Permit Services

Sayed Sadredin
Executive Director/Air Pollution Control Officer

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San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Facility Name: Kern River Cogeneration Co. Engineer: Steve Davidson/Rich Karrs
Mailing Address: P.O. Box 0478 Date: July 30, 2013
Bakersfield, CA 93380 Lead Engineer: Rich Karrs
Contact Person: Cory Eagar/Neil Burgess
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Application #(s): S-88-1-20, '-2-21, '-3-20, '-4-22
Project #: S-1130418
Deemed Complete: April 8, 2013

I. Proposal

Kern River Cogeneration Company (Kern River) is a cogeneration facility located in the Kern River oilfield near Bakersfield, CA. The facility employs four (4) General Electric Frame 7EA combustion turbines (CTs) and four (4) unfired heat recovery steam generators (HRSGs) to cogenerate 300 MW (nominal rating) of electricity and 1.8 million pounds per hour of steam for enhanced oil recovery. These units supply steam for Chevron's Heavy Oil Central Stationary Source in the Kern County Oil Fields.

In project S-1111099, Kern River was approved to revise the facility's operating permits to define and add a 12 hour allowance for "tuning startups". A 12 hour period for "tuning startups" is required to adjust the performance of a unit after a combustor replacement. Advanced DLN+ combustors were originally installed in 2007 for rule compliance, and have been periodically replaced since then. Prior to the approval given in project S-1111099, any replacement of a DLN+ combustor and the accompanying tuning startup was undertaken through the District's variance process.

ATCs approving tuning startups were issued on April 12, 2012. Simultaneously, Kern River applied to EPA to modify their Prevention of Significant Deterioration (PSD) permit that was being administered by EPA. On November 26, 2012, District Rule 2410, Prevention of Significant Deterioration (PSD), went into effect and the District became the administrator for PSD. This project is limited to a PSD compliance review of the District's previous approval of the 12 hours tuning startup allowance after combustor replacement.

Kern River received their Title V Permit on October 7, 1999. This modification can be classified as a Title V minor modification pursuant to Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Kern River must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review (04/21/11)
Rule 2520 Federally Mandated Operating Permits (06/21/01)
Rule 2410 Prevention of Significant Deterioration (11/26/12)
Rule 2540 Acid Rain Program (11/13/97)
Rule 4001 NSPS Subpart GG – Standards of Performance for Stationary Gas Turbines (04/14/99)
Rule 4101 Visible Emissions (02/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4301 Fuel Burning Equipment (12/17/92) – **not applicable** - cogeneration system produces power by primarily mechanical means, not through indirect heat transfer
Rule 4703 Stationary Gas Turbines (09/20/07)
Rule 4801 Sulfur Compounds (12/17/92)
CH&S Code, Section 41700
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

The facility is in compliance with all existing District Rules. The scope of this project is limited to reviewing for conformance with PSD requirements (Rule 2410) the previously approved changes to add “tuning startup” requirements to permits S-88-1-18, ‘-2-19, ‘-3-18, and ‘-4-20.

III. Project Location

Kern River is located in the center of the north ½ of Section 31, Township 28 South, Range 28 East in the Kern River oil field, within the central Kern County oil fields. There are no schools within 1000 feet of the project site.

IV. Process Description

Cogeneration plants are used to produce high quality steam for injection into the oil producing strata to enhance oil production and to produce electricity for use in the oil field. Kern River sells excess power to Southern California Edison Company.

V. Equipment Listing

Pre-Project Equipment Description:

- S-88-1-18: 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH DRY LOW NOX COMBUSTORS (KRCC UNIT #1)
- S-88-2-19: 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH DRY LOW NOX COMBUSTORS (KRCC UNIT #2)
- S-88-3-18: 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH DRY LOW NOX COMBUSTORS (KRCC UNIT #3)
- S-88-4-20: 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE WITH DRY LOW NOX COMBUSTORS (KRCC UNIT #4)

Proposed Modification:

Incorporate tuning start up conditions into PSD permit

Post Project Equipment Description:

- S-88-1-20: 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH DRY LOW NOX COMBUSTORS (KRCC UNIT #1)
- S-88-2-21: 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH DRY LOW NOX COMBUSTORS (KRCC UNIT #2)
- S-88-3-22: 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH DRY LOW NOX COMBUSTORS (KRCC UNIT #3)
- S-88-4-18: 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE WITH DRY LOW NOX COMBUSTORS (KRCC UNIT #4)

VI. Emission Control Technology Evaluation

The combustion turbines utilize GE's proprietary Dry Low NO_x (DLN1+) technology. The DLN1+ technology employs lean premixed combustion to stage combustion, resulting in reduced NO_x formation. The DLN1+ technology is expected to achieve a 3-hour average NO_x limit of 3 ppmv, dry at 15% oxygen. No post-combustion emission control for either NO_x or CO is required with this system.

DLN1+ controls and emissions monitoring sensors are allow the gas turbine to maintain a fixed level of NO_x emissions by automatically adjusting the gas turbine fuel splits to compensate for ambient temperature changes and/or hardware degradation over time. Additionally, Combustion Dynamics Monitoring (CDM) is used to verify dynamics levels are within acceptable limits whenever the combustion system is running.

The system consists of combustion hardware and supporting accessory systems. The combustion hardware consists of combustion liners, fuel nozzles, transition pieces and flow sleeves. These components have improved air/fuel management, relative to the DLN design, which allows for a reduction in NO_x without compromising operability boundaries such as combustion dynamics.

Fuel system accessories deliver fuel to three independent fuel passages, the primary, secondary and pilot. Fuel is delivered to the combustion cans via gas control valves, piping manifolds and flexible hoses (pigtailed). The gas fuel valves are housed in the fuel module. The 7EA DLN1+ combustion system includes a transfer system with purge valves, manifolds and pigtailed.

VII. General Calculations

A. Assumptions

This proposal is not an NSR modification and has no effect on existing emission requirements. Therefore, NSR calculations are not required.

Additionally, the facility concedes that it is an existing major source for PSD. Therefore, calculations to determine if the facility is an existing PSD source are not required.

VIII. Compliance

The facility is in compliance with all existing District rules, including the New and Modified Stationary Source Review Rule, as shown in the application review for project S-1111099. Therefore, this project will only evaluate the previously approved changes to permits S-88-1-18, '-2-19, '-3-18, and '-4-20 as they pertain to Rule 2410 (Prevention of Significant Deterioration) and Rule 2520 (Federally Mandated Operating Permits).

Rule 2410 Prevention of Significant Deterioration

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀
- Greenhouse gases (GHG): CO₂ and CH₄

As the facility is an existing PSD Major Source, the next step of the PSD evaluation is to determine if the project results in a PSD significant increase.

I. Project Location Relative to Class 1 Area

As previously determined, the facility is an existing PSD Major Source. Because the project is not located within 10 km of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Project Emission Increase – Significance Determination

a. Evaluation of Calculated Post-project Potential to Emit for New or Modified Emissions Units vs PSD Significant Emission Increase Thresholds

As this project has a total potential to emit from all new and modified emission units greater than PSD significant emission increase thresholds, further analysis is required to determine if the project has an emission increase greater than the PSD significant emission increase thresholds, see step below.

b. Evaluation of Calculated Emission Increases vs PSD Significant Emission Increase Thresholds

In this step, the emission increase for each attainment/unclassified pollutant is compared to the PSD significant emission increase thresholds, and if emission increase for each attainment pollutant is below this threshold, no further analysis is needed.

For existing emissions units, the increase in emissions is calculated as follows:

$$\text{Emission Increase} = \text{PAE} - \text{BAE} - \text{UBC}$$

Where: PAE = Projected Actual Emissions, and
BAE = Baseline Actual Emissions
UBC = Unused baseline capacity

This project evaluates the previously approved change allowing for higher emissions of NO_x and CO during the 12-hr tuning startup that follows a combustor replacement. Normal startup and shutdown events are not affected as a result of this project. The operator is projecting no more than one combustor replacement and tuning startup allowance per year per turbine. During and prior to the combustor replacement it is assumed that the turbine will be offline and not emitting, the result of which will be decreased emissions that more than offset the increased emissions during the tuning startup period. During the tuning startup only short term performance limits (lb/MM Btu and lb/hr) are expected to be impacted; continued compliance is expected and required with existing daily and annual emission limits. Further, it was determined in project S-1111099 that baseline emissions (BAE) were equal to PE1, as the units were fully offset.

Given the above discussion, it can be concluded that this project will not result in an emissions increase (PAE –BAE) and that there is no exceedence of any PSD significant emission increase thresholds. Therefore the project does not result in a PSD major modification due to a significant emission increase and no further discussion is required.

As stated above, ATCs approving the 12-hr tuning startup were issued on April 12, 2012. Simultaneously, Kern River applied to EPA to modify their Prevention of Significant Deterioration (PSD) permit that was being administered by EPA. On November 26, 2012, District Rule 2410, Prevention of Significant Deterioration, went into effect and the District became the administrator for PSD. Therefore, the District will use this opportunity to update the PSD Rule references and minor condition changes on the current ATCs (see list of conditions modified in Appendix B).

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit pursuant to Section 3.20 of this rule:

In accordance with Rule 2520, 3.20, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;

2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
 - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
 - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment application.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue Authority to Construct S-88-1-20, '-2-21, '-3-20, and '-4-22 subject to the permit conditions on the attached draft Authority to Construct in **Appendix C**.

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-88-1-20	3020-8A-G	75,000 kW	\$ 10,215
S-88-2-21	3020-8B-G	75,000 kW	\$ 10,215
S-88-3-20	3020-8B-G	75,000 kW	\$ 10,215
S-88-4-22	3020-8A-G	75,000 kW	\$ 10,215

Appendices

- A: Current Permits
- B: Modified Permit Conditions
- C: Draft ATCs
- D: Compliance Certification

APPENDIX A

Current PTOs

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-88-1-18

EXPIRATION DATE: 08/31/2014

SECTION: 32 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH DRY LOW NOX COMBUSTORS (KRCC UNIT #1)

PERMIT UNIT REQUIREMENTS

1. Combustion turbine generator (CTG) shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; 40 CFR 60.333(a); Kern County Rule 407] Federally Enforceable Through Title V Permit
2. Except during periods exempted in Rule 4703, Section 5.3.1, operator shall not exceed a NOx emission rate of 3 ppmvd @ 15% O₂, under load conditions, excluding thermal stabilization, reduced load periods, and tuning start-up periods. [40 CFR 60.332(a)(1) & 60.332 (a)(2) and District Rule 4703, 5.1.2] Federally Enforceable Through Title V Permit
3. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
4. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [Rule 110 (Madera); District Rule 1081] Federally Enforceable Through Title V Permit
5. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072-80, D 3031-81, D 4084-82 or D 3246-81. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
6. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [40 CFR 60.334(b)(2)] Federally Enforceable Through Title V Permit
7. The HHV and LHV of the fuel shall be determined using ASTM D3588-91, ASTM 1826-88, OR ASTM 1945-81. [40 CFR 60.332(a),(b)] Federally Enforceable Through Title V Permit
8. Nitrogen oxides (NOx) concentrations shall be determined using EPA Method 7E or 20, and oxygen (O₂) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit
9. The operator shall provide source test information annually regarding the exhaust gas NOx concentration corrected to 15% O₂ (dry). [40 CFR 60.332(a),(b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
10. The operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703, 5.1.1. [40 CFR 60.332(a),(b) and 4703, 5.1.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

11. Operations during periods of startup, shutdown, and tuning start-up shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
12. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
13. Records shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEM's that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3 and 40 CFR 60.7(b)] Federally Enforceable Through Title V Permit
14. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
15. The operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
16. Results of continuous emission monitoring must be averaged in accordance with the requirements of 40 CFR 60.13. [40 CFR 60.334(b),(c) and District Rule 4703, 5.0] Federally Enforceable Through Title V Permit
17. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.4; PSD SJ 84-01, X.D.1] Federally Enforceable Through Title V Permit
18. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: Rules 404 (Madera), 406 (Fresno), 407 (Kings, Merced, San Joaquin, Stanislaus, Tulare, Kern); District Rule 1081, 4201, 1080, Section 6.5, 7.2, 8.0, 9.0, and 10.0; 40 CFR 60.332(c) and (d); 60.334 (b), (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
19. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: District Rule 4703, sections 5.0, 5.1.1, 6.2.1, 6.2.4, 6.3, 6.4.1, 6.4.3, 6.4.5, and 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
20. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following subsumed requirements: 40 CFR 60.332 (b); 60.335(a), (b), (c), and (e). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
21. Operator shall install, operate, and maintain in calibration a system which continuously measures and records control system operating parameters, elapsed time of operation, and exhaust gas NOx concentration and O2 or CO2 concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703] Federally Enforceable Through Title V Permit
22. The NOx and CO2 CEMS shall meet the requirements in 40CFR60, Appendix B Performance Specifications 2 and 3 and Appendix F Procedure 1. [40 CFR 60.334(b)(1) and District Rules 1080, 6.3, 6.5, 6.6, & 7.2, and 4703, 6.2.3]
23. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)] Federally Enforceable Through Title V Permit
24. A violation of NOx emission standards indicated by the NOx CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
25. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rule 1080, 10.0; PSD SJ 84-01, X.D.3] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

26. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [District Rule 1080, 8.0 and PSD SJ 84-01, X.D.3] Federally Enforceable Through Title V Permit
27. The written report for each calendar quarter shall also include: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 84-01, X.E. [District Rule 1080, 8.0; PSD SJ 84- 01, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
28. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [District Rule 4703 and PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
29. Each CTG shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
30. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
31. When operating in cogeneration mode, exhaust gas ducting from CTG through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule]
32. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule]
33. Each CTG shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 84-01, X.D.1] Federally Enforceable Through Title V Permit
34. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
35. HRSG exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081]
36. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Kern River Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit
37. Accurate records of NOx (as NO2) and carbon monoxide (CO) flue gas concentrations corrected to 15% O2, dry and CTG fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
38. Emission rates from CTG shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 12.0 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Emission rates from CTG shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 288.0 lb/day, or CO - 1056.0 lb/day. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
40. Emission from CTG, except during startup, shutdown, and tuning start-up, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

41. During startup, shutdown, and tuning start-up periods, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201]
42. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
43. Daily Emissions for the unit may be determined from the arithmetic mean of three, 40-minute test runs for NOx and CO, multiplied by the appropriate factor. [District Rule 2520, 9.4.2 and District Rule 4703] Federally Enforceable Through Title V Permit
44. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
45. Performance testing shall be conducted annually to measure NOx and CO emission concentrations using the following methods: EPA Methods 7E or 20 for NOx emissions, EPA Methods 10 or 10B for CO emissions, EPA Methods 3, 3A or 20 for Oxygen content of the exhaust gas. The performance tests shall be performed between 90 and 100 percent of peak (or the highest physically achievable) load. [40 CFR 60.335(a), (b)(7) and District Rule 4703, 6.3.1, 6.4.1, 6.4.2, & 6.4.3] Federally Enforceable Through Title V Permit
46. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit
47. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CTG flue gas stream during both simple cycle and cogeneration modes, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 84-01, X.D.1 and .2] Federally Enforceable Through Title V Permit
48. All continuous emissions monitoring systems shall be calibrated and operated during both simple cycle and cogeneration modes according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 84-01 X.D.2] Federally Enforceable Through Title V Permit
49. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 84-01, X.D.5] Federally Enforceable Through Title V Permit
50. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 84-01, X.D.3] Federally Enforceable Through Title V Permit
51. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 84-01, X.D.3] Federally Enforceable Through Title V Permit
52. Startup and shutdown of CTG, as defined in 40 CFR, Subpart A 60.2, shall not exceed a time period of two hours and two hours, respectively, per occurrence. [40 CFR 60.8] Federally Enforceable Through Title V Permit
53. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
54. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
55. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 84-01] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

56. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in CO emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
57. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
58. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
59. Any requirements established by this permit for the gathering and reporting of information are not subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act (PRA) because this permit is not an "information collection request" within the meaning of 44 U.S.C. Subsections 3502(4) & (11), 3507, 3512, and 3518. Furthermore, this permit and any information gathering and reporting requirements established by this permit are exempt from OMB review under the PRA because it is directed to fewer than ten persons. [44 U.S.C. Section 3502(4), (11) and 5 CFR Section 1320.5(a) and PSD SJ 84- 01] Federally Enforceable Through Title V Permit
60. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
61. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10 [PSD SJ 84- 01] Federally Enforceable Through Title V Permit
62. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
63. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
64. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 84-01] Federally Enforceable Through Title V Permit
65. This facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
66. All correspondence as required by the PSD permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; and c) Compliance Division, SJVUAPCD. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
67. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

68. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (12/17/92), by using EPA method 9. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-88-2-19

EXPIRATION DATE: 08/31/2014

SECTION: 32 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE GENERATOR (CTG) WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (KRCC UNIT #2)

PERMIT UNIT REQUIREMENTS

1. Combustion turbine generator (CTG) shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; 40 CFR 60.333(a); Kern County Rule 407] Federally Enforceable Through Title V Permit
2. Except during periods exempted in Rule 4703, Section 5.3.1, operator shall not exceed a NOx emission rate of 3 ppmvd @ 15% O₂, under load conditions, excluding thermal stabilization, reduced load periods, and tuning start-up periods. [40 CFR 60.332(a)(1) & 60.332 (a)(2) and District Rule 4703, 5.1.2] Federally Enforceable Through Title V Permit
3. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
4. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [Rule 110 (Madera); District Rule 1081] Federally Enforceable Through Title V Permit
5. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072-80, D 3031-81, D 4084-82 or D 3246-81. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
6. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [40 CFR 60.334(b)(2)] Federally Enforceable Through Title V Permit
7. The HHV and LHV of the fuel shall be determined using ASTM D3588-91, ASTM 1826-88, OR ASTM 1945-81. [40 CFR 60.332(a),(b)] Federally Enforceable Through Title V Permit
8. Nitrogen oxides (NOx) concentrations shall be determined using EPA Method 7E or 20, and oxygen (O₂) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit
9. The operator shall provide source test information annually regarding the exhaust gas NOx concentration corrected to 15% O₂ (dry). [40 CFR 60.332(a),(b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

10. The operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703, 5.1.1. [40 CFR 60.332(a),(b) and 4703, 5.1.1] Federally Enforceable Through Title V Permit
11. Operations during periods of startup, shutdown, and tuning start-up shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
12. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
13. Records shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEM's that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3 and 40 CFR 60.7(b)] Federally Enforceable Through Title V Permit
14. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
15. The operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
16. Results of continuous emission monitoring must be averaged in accordance with the requirements of 40 CFR 60.13. [40 CFR 60.334(b),(c) and District Rule 4703, 5.0] Federally Enforceable Through Title V Permit
17. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.4; PSD SJ 84-01, X.D.1] Federally Enforceable Through Title V Permit
18. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: Rules 404 (Madera), 406 (Fresno), 407 (Kings, Merced, San Joaquin, Stanislaus, Tulare, Kern); District Rule 1081, 4201, 1080, Section 6.5, 7.2, 8.0, 9.0, and 10.0; 40 CFR 60.332(c) and (d); 60.334 (b), (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
19. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: District Rule 4703, sections 5.0, 5.1.1, 6.2.1, 6.2.4, 6.3, 6.4.1, 6.4.3, 6.4.5, and 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
20. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following subsumed requirements: 40 CFR 60.332 (b); 60.335(a), (b), (c), and (e). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
21. Operator shall install, operate, and maintain in calibration a system which continuously measures and records control system operating parameters, elapsed time of operation, and exhaust gas NOx concentration and O2 or CO2 concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703] Federally Enforceable Through Title V Permit
22. The NOx and CO2 CEMS shall meet the requirements in 40CFR60, Appendix B Performance Specifications 2 and 3 and Appendix F Procedure 1. [40 CFR 60.334(b)(1) and District Rules 1080, 6.3, 6.5, 6.6, & 7.2, and 4703, 6.2.3]
23. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)] Federally Enforceable Through Title V Permit
24. A violation of NOx emission standards indicated by the NOx CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

25. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rule 1080, 10.0; PSD SJ 84-01, X.D.3] Federally Enforceable Through Title V Permit
26. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [District Rule 1080, 8.0 and PSD SJ 84-01, X.D.3] Federally Enforceable Through Title V Permit
27. The written report for each calendar quarter shall also include: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 84-01, X.E. [District Rule 1080, 8.0; PSD SJ 84-01, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
28. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [District Rule 4703 and PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
29. Each CTG shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
30. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
31. When operating in cogeneration mode, exhaust gas ducting from CTG through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule]
32. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule]
33. Each CTG shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 84-01, X.D.1] Federally Enforceable Through Title V Permit
34. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
35. HRSG exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081]
36. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Kern River Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit
37. Accurate records of NOx (as NO2) and carbon monoxide (CO) flue gas concentrations corrected to 15% O2, dry and CTG fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
38. Emission rates from CTG shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 12.0 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Emission rates from CTG shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 288.0 lb/day, or CO - 1056.0 lb/day. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

40. Emission from CTG, except during startup, shutdown, and tuning start-up, shall not exceed any of the following: NO_x (as NO₂) - 3 ppmvd @ 15% O₂, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O₂, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
41. During startup, shutdown, and tuning start-up periods, emissions shall not exceed any of the following: 140.0 lb/hr of NO_x on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201]
42. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
43. Daily Emissions for the unit may be determined from the arithmetic mean of three, 40-minute test runs for NO_x and CO, multiplied by the appropriate factor. [District Rule 2520, 9.4.2 and District Rule 4703] Federally Enforceable Through Title V Permit
44. Source testing to determine NO_x and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
45. Performance testing shall be conducted annually to measure NO_x and CO emission concentrations using the following methods: EPA Methods 7E or 20 for NO_x emissions, EPA Methods 10 or 10B for CO emissions, EPA Methods 3, 3A or 20 for Oxygen content of the exhaust gas. The performance tests shall be performed between 90 and 100 percent of peak (or the highest physically achievable) load. [40 CFR 60.335(a), (b)(7) and District Rule 4703, 6.3.1, 6.4.1, 6.4.2, & 6.4.3] Federally Enforceable Through Title V Permit
46. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit
47. Continuous emission monitoring system for NO_x as NO₂ and continuous monitoring system for CO & CO₂ shall serve each CTG flue gas stream during both simple cycle and cogeneration modes, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 84-01, X.D.1 and .2] Federally Enforceable Through Title V Permit
48. All continuous emissions monitoring systems shall be calibrated and operated during both simple cycle and cogeneration modes according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 84-01 X.D.2] Federally Enforceable Through Title V Permit
49. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 84-01, X.D.5] Federally Enforceable Through Title V Permit
50. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 84-01, X.D.3] Federally Enforceable Through Title V Permit
51. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 84-01, X.D.3] Federally Enforceable Through Title V Permit
52. Startup and shutdown of CTG, as defined in 40 CFR, Subpart A 60.2, shall not exceed a time period of two hours and two hours, respectively, per occurrence. [40 CFR 60.8] Federally Enforceable Through Title V Permit
53. NO₂ and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
54. Daily records of NO₂ and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

55. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
56. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in CO emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
57. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
58. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
59. Any requirements established by this permit for the gathering and reporting of information are not subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act (PRA) because this permit is not an "information collection request" within the meaning of 44 U.S.C. Subsections 3502(4) & (11), 3507, 3512, and 3518. Furthermore, this permit and any information gathering and reporting requirements established by this permit are exempt from OMB review under the PRA because it is directed to fewer than ten persons. [44 U.S.C. Section 3502(4), (11) and 5 CFR Section 1320.5(a) and PSD SJ 84- 01] Federally Enforceable Through Title V Permit
60. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
61. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10 [PSD SJ 84- 01] Federally Enforceable Through Title V Permit
62. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
63. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
64. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 84-01] Federally Enforceable Through Title V Permit
65. This facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 84-01] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

66. All correspondence as required by the PSD permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; and c) Compliance Division, SJVUAPCD. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
67. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
68. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (12/17/92), by using EPA method 9. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-88-3-18

EXPIRATION DATE: 08/31/2014

SECTION: 32 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT
WITH DRY LOW NOX COMBUSTORS (KRCC UNIT #3)

PERMIT UNIT REQUIREMENTS

1. Combustion turbine generator (CTG) shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; 40 CFR 60.333(a); Kern County Rule 407] Federally Enforceable Through Title V Permit
2. Except during periods exempted in Rule 4703, Section 5.3.1, operator shall not exceed a NOx emission rate of 3 ppmvd @ 15% O₂, under load conditions, excluding thermal stabilization, reduced load periods, and tuning start-up periods. [40 CFR 60.332(a)(1) & 60.332 (a)(2) and District Rule 4703, 5.1.2] Federally Enforceable Through Title V Permit
3. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
4. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [Rule 110 (Madera); District Rule 1081] Federally Enforceable Through Title V Permit
5. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072-80, D 3031-81, D 4084-82 or D 3246-81. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
6. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [40 CFR 60.334(b)(2)] Federally Enforceable Through Title V Permit
7. The HHV and LHV of the fuel shall be determined using ASTM D3588-91, ASTM 1826-88, OR ASTM 1945-81. [40 CFR 60.332(a),(b)] Federally Enforceable Through Title V Permit
8. Nitrogen oxides (NOx) concentrations shall be determined using EPA Method 7E or 20, and oxygen (O₂) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit
9. The operator shall provide source test information annually regarding the exhaust gas NOx concentration corrected to 15% O₂ (dry). [40 CFR 60.332(a),(b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
10. The operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703, 5.1.1. [40 CFR 60.332(a),(b) and 4703, 5.1.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

11. Operations during periods of startup, shutdown, and tuning start-up shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
12. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
13. Records shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEM's that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3 and 40 CFR 60.7(b)] Federally Enforceable Through Title V Permit
14. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
15. The operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
16. Results of continuous emission monitoring must be averaged in accordance with the requirements of 40 CFR 60.13. [40 CFR 60.334(b),(c) and District Rule 4703, 5.0] Federally Enforceable Through Title V Permit
17. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.4; PSD SJ 84-01, X.D.1] Federally Enforceable Through Title V Permit
18. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: Rules 404 (Madera), 406 (Fresno), 407 (Kings, Merced, San Joaquin, Stanislaus, Tulare, Kern); District Rule 1081, 4201, 1080, Section 6.5, 7.2, 8.0, 9.0, and 10.0; 40 CFR 60.332(c) and (d); 60.334 (b), (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
19. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: District Rule 4703, sections 5.0, 5.1.1, 6.2.1, 6.2.4, 6.3, 6.4.1, 6.4.3, 6.4.5, and 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
20. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following subsumed requirements: 40 CFR 60.332 (b); 60.335(a), (b), (c), and (e). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
21. Operator shall install, operate, and maintain in calibration a system which continuously measures and records control system operating parameters, elapsed time of operation, and exhaust gas NOx concentration and O2 or CO2 concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703] Federally Enforceable Through Title V Permit
22. The NOx and CO2 CEMS shall meet the requirements in 40CFR60, Appendix B Performance Specifications 2 and 3 and Appendix F Procedure 1. [40 CFR 60.334(b)(1) and District Rules 1080, 6.3, 6.5, 6.6, & 7.2, and 4703, 6.2.3]
23. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)] Federally Enforceable Through Title V Permit
24. A violation of NOx emission standards indicated by the NOx CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
25. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rule 1080, 10.0; PSD SJ 84-01, X.D.3] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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26. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [District Rule 1080, 8.0 and PSD SJ 84-01, X.D.3] Federally Enforceable Through Title V Permit
27. The written report for each calendar quarter shall also include: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 84-01, X.E. [District Rule 1080, 8.0; PSD SJ 84- 01, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
28. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [District Rule 4703 and PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
29. Each CTG shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
30. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
31. When operating in cogeneration mode, exhaust gas ducting from CTG through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule]
32. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule]
33. Each CTG shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 84-01, X.D.1] Federally Enforceable Through Title V Permit
34. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
35. HRSG exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081]
36. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Kern River Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit
37. Accurate records of NOx (as NO2) and carbon monoxide (CO) flue gas concentrations corrected to 15% O2, dry and CTG fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
38. Emission rates from CTG shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 12.0 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Emission rates from CTG shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 288.0 lb/day, or CO - 1056.0 lb/day. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
40. Emission from CTG, except during startup, shutdown, and tuning start-up, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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41. During startup, shutdown, and tuning start-up periods, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201]
42. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
43. Daily Emissions for the unit may be determined from the arithmetic mean of three, 40-minute test runs for NOx and CO, multiplied by the appropriate factor. [District Rule 2520, 9.4.2 and District Rule 4703] Federally Enforceable Through Title V Permit
44. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
45. Performance testing shall be conducted annually to measure NOx and CO emission concentrations using the following methods: EPA Methods 7E or 20 for NOx emissions, EPA Methods 10 or 10B for CO emissions, EPA Methods 3, 3A or 20 for Oxygen content of the exhaust gas. The performance tests shall be performed between 90 and 100 percent of peak (or the highest physically achievable) load. [40 CFR 60.335(a), (b)(7) and District Rule 4703, 6.3.1, 6.4.1, 6.4.2, & 6.4.3] Federally Enforceable Through Title V Permit
46. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit
47. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CTG flue gas stream during both simple cycle and cogeneration modes, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 84-01, X.D.1 and .2] Federally Enforceable Through Title V Permit
48. All continuous emissions monitoring systems shall be calibrated and operated during both simple cycle and cogeneration modes according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 84-01 X.D.2] Federally Enforceable Through Title V Permit
49. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 84-01, X.D.5] Federally Enforceable Through Title V Permit
50. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 84-01, X.D.3] Federally Enforceable Through Title V Permit
51. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 84-01, X.D.3] Federally Enforceable Through Title V Permit
52. Startup and shutdown of CTG, as defined in 40 CFR, Subpart A 60.2, shall not exceed a time period of two hours and two hours, respectively, per occurrence. [40 CFR 60.8] Federally Enforceable Through Title V Permit
53. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
54. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
55. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 84-01] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

56. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in CO emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
57. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
58. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
59. Any requirements established by this permit for the gathering and reporting of information are not subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act (PRA) because this permit is not an "information collection request" within the meaning of 44 U.S.C. Subsections 3502(4) & (11), 3507, 3512, and 3518. Furthermore, this permit and any information gathering and reporting requirements established by this permit are exempt from OMB review under the PRA because it is directed to fewer than ten persons. [44 U.S.C. Section 3502(4), (11) and 5 CFR Section 1320.5(a) and PSD SJ 84- 01] Federally Enforceable Through Title V Permit
60. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
61. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10 [PSD SJ 84- 01] Federally Enforceable Through Title V Permit
62. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
63. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
64. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 84-01] Federally Enforceable Through Title V Permit
65. This facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
66. All correspondence as required by the PSD permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; and c) Compliance Division, SJVUAPCD. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
67. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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68. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (12/17/92), by using EPA method 9. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

Facility Name: KERN RIVER COGENERATION CO

Location: HEAVY OIL CENTRAL, CA

S-88-3-18 : May 15 2013 2:14PM - DAVIDSOS

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-88-4-20

EXPIRATION DATE: 08/31/2014

SECTION: 32 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE WITH DRY LOW NOX COMBUSTORS (KRCC UNIT #4)

PERMIT UNIT REQUIREMENTS

1. Combustion turbine generator (CTG) shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; 40 CFR 60.333(a); Kern County Rule 407] Federally Enforceable Through Title V Permit
2. Except during periods exempted in Rule 4703, Section 5.3.1, operator shall not exceed a NOx emission rate of 3 ppmvd @ 15% O2, under load conditions, excluding thermal stabilization, reduced load periods, and tuning start-up periods. [40 CFR 60.332(a)(1) & 60.332 (a)(2) and District Rule 4703, 5.1.2] Federally Enforceable Through Title V Permit
3. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
4. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [Rule 110 (Madera); District Rule 1081] Federally Enforceable Through Title V Permit
5. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072-80, D 3031-81, D 4084-82 or D 3246-81. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
6. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [40 CFR 60.334(b)(2)] Federally Enforceable Through Title V Permit
7. The HHV and LHV of the fuel shall be determined using ASTM D3588-91, ASTM 1826-88, OR ASTM 1945-81. [40 CFR 60.332(a),(b)] Federally Enforceable Through Title V Permit
8. Nitrogen oxides (NOx) concentrations shall be determined using EPA Method 7E or 20, and oxygen (O2) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit
9. The operator shall provide source test information annually regarding the exhaust gas NOx concentration corrected to 15% O2 (dry). [40 CFR 60.332(a),(b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
10. The operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703, 5.1.1. [40 CFR 60.332(a),(b) and 4703, 5.1.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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11. Operations during periods of startup, shutdown, and tuning start-up shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
12. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
13. Records shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEM's that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3 and 40 CFR 60.7(b)] Federally Enforceable Through Title V Permit
14. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
15. The operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
16. Results of continuous emission monitoring must be averaged in accordance with the requirements of 40 CFR 60.13. [40 CFR 60.334(b),(c) and District Rule 4703, 5.0] Federally Enforceable Through Title V Permit
17. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.4; PSD SJ 84-01, X.D.1] Federally Enforceable Through Title V Permit
18. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: Rules 404 (Madera), 406 (Fresno), 407 (Kings, Merced, San Joaquin, Stanislaus, Tulare, Kern); District Rule 1081, 4201, 1080, Section 6.5, 7.2, 8.0, 9.0, and 10.0; 40 CFR 60.332(c) and (d); 60.334 (b), (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
19. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: District Rule 4703, sections 5.0, 5.1.1, 6.2.1, 6.2.4, 6.3, 6.4.1, 6.4.3, 6.4.5, and 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
20. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following subsumed requirements: 40 CFR 60.332 (b); 60.335(a), (b), (c), and (e). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
21. Operator shall install, operate, and maintain in calibration a system which continuously measures and records control system operating parameters, elapsed time of operation, and exhaust gas NOx concentration and O2 or CO2 concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703] Federally Enforceable Through Title V Permit
22. The NOx and CO2 CEMS shall meet the requirements in 40CFR60, Appendix B Performance Specifications 2 and 3 and Appendix F Procedure 1. [40 CFR 60.334(b)(1) and District Rules 1080, 6.3, 6.5, 6.6, & 7.2, and 4703, 6.2.3]
23. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)] Federally Enforceable Through Title V Permit
24. A violation of NOx emission standards indicated by the NOx CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
25. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rule 1080, 10.0; PSD SJ 84-01, X.D.3] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

26. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [District Rule 1080, 8.0 and PSD SJ 84-01, X.D.3] Federally Enforceable Through Title V Permit
27. The written report for each calendar quarter shall also include: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 84-01, X.E. [District Rule 1080, 8.0; PSD SJ 84- 01, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
28. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [District Rule 4703 and PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
29. Each CTG shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
30. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
31. When operating in cogeneration mode, exhaust gas ducting from CTG through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule]
32. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule]
33. Each CTG shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 84-01, X.D.1] Federally Enforceable Through Title V Permit
34. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
35. HRSG exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081]
36. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Kern River Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit
37. Accurate records of NOx (as NO2) and carbon monoxide (CO) flue gas concentrations corrected to 15% O2, dry and CTG fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
38. Emission rates from CTG shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 12.0 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Emission rates from CTG shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 288.0 lb/day, or CO - 1056.0 lb/day. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
40. Emission from CTG, except during startup, shutdown, and tuning start-up, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

41. During startup and shutdown, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201]
42. During startup, shutdown, and tuning start-up periods, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201]
43. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
44. Daily Emissions for the unit may be determined from the arithmetic mean of three, 40-minute test runs for NOx and CO, multiplied by the appropriate factor. [District Rule 2520, 9.4.2 and District Rule 4703] Federally Enforceable Through Title V Permit
45. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
46. Performance testing shall be conducted annually to measure NOx and CO emission concentrations using the following methods: EPA Methods 7E or 20 for NOx emissions, EPA Methods 10 or 10B for CO emissions, EPA Methods 3, 3A or 20 for Oxygen content of the exhaust gas. The performance tests shall be performed between 90 and 100 percent of peak (or the highest physically achievable) load. [40 CFR 60.335(a), (b)(7) and District Rule 4703, 6.3.1, 6.4.1, 6.4.2, & 6.4.3] Federally Enforceable Through Title V Permit
47. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit
48. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CTG flue gas stream during both simple cycle and cogeneration modes, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 84-01, X.D.1 and .2] Federally Enforceable Through Title V Permit
49. All continuous emissions monitoring systems shall be calibrated and operated during both simple cycle and cogeneration modes according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 84-01 X.D.2] Federally Enforceable Through Title V Permit
50. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 84-01, X.D.5] Federally Enforceable Through Title V Permit
51. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 84-01, X.D.3] Federally Enforceable Through Title V Permit
52. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 84-01, X.D.3] Federally Enforceable Through Title V Permit
53. Startup and shutdown of CTG, as defined in 40 CFR, Subpart A 60.2, shall not exceed a time period of two hours and two hours, respectively, per occurrence. [40 CFR 60.8] Federally Enforceable Through Title V Permit
54. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
55. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

56. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
57. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in CO emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
58. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
59. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
60. Any requirements established by this permit for the gathering and reporting of information are not subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act (PRA) because this permit is not an "information collection request" within the meaning of 44 U.S.C. Subsections 3502(4) & (11), 3507, 3512, and 3518. Furthermore, this permit and any information gathering and reporting requirements established by this permit are exempt from OMB review under the PRA because it is directed to fewer than ten persons. [44 U.S.C. Section 3502(4), (11) and 5 CFR Section 1320.5(a) and PSD SJ 84- 01] Federally Enforceable Through Title V Permit
61. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
62. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10 [PSD SJ 84- 01] Federally Enforceable Through Title V Permit
63. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
64. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
65. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 84-01] Federally Enforceable Through Title V Permit
66. This facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 84-01] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

67. All correspondence as required by the PSD permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; and c) Compliance Division, SJVUAPCD. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
68. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
69. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (12/17/92), by using EPA method 9. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

Facility Name: KERN RIVER COGENERATION CO

Location: HEAVY OIL CENTRAL, CA

S-88-4-20 : May 15 2013 2:14PM - DAVIDSOS

APPENDIX B

Modified Conditions

Changes to current permit S-88-1-18 revising conditions to incorporate the 12-hr tuning startup allowance into the PSD and referencing the District, through Rule 2410, to be the Administrator of the PSD program (the changes are similar for the remaining 3 units):

3. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rules 2201, 2410 and ~~4703, 5.3~~] Y
11. Operations during periods of startup, shutdown, and tuning start-up shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup, and shutdown and tuning start-up be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [District Rules 2201, 2410 and 4703 and 40 CFR 60.8(c)] Y
17. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2410, 2520, 9.4.2 and 4703, 6.2.4; PSD SJ 84-01, X.D.4] Y
25. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080 and 2410, 10.0; PSD SJ 84-01, X.D.3] Y
26. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [District Rules 1080 and 2410 8.0 and PSD SJ 84-01, X.D.3] Y
27. The written report for each calendar quarter shall also include: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 84-01, X.E. [District Rules 1080 and 2410, 8.0; PSD SJ 84-01, X.D.3 and X.D.5.a through e] Y

28. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [~~District Rules 2410 and 4703 and PSD-SJ-85-09, X.B]~~ Y
29. Each CTG shall have a fuel consumption monitor/recorder. [~~District NSR Rules 2201 and 2410 and PSD-SJ-84-01, X.D.1]~~ Y
47. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CTG flue gas stream during both simple cycle and cogeneration modes, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [~~District Rules 1080 and 2410 and PSD-SJ-84-01, X.D.1 and .2]~~ Y
48. All continuous emissions monitoring systems shall be calibrated and operated during both simple cycle and cogeneration modes according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [~~District Rules 1080 and 2410 PSD-SJ-84-01 X.D.2]~~ Y
49. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [~~District Rules 1080 and 2410 PSD-SJ-84-01, X.D.5]~~ Y
50. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [~~District Rule 1080 and 2410 PSD-SJ-84-01, X.D.3]~~ Y
51. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [~~District Rule 1080 and 2410 PSD-SJ-84-01, X.D.3]~~ Y
52. Startup and shutdown of CTG, as defined in 40 CFR, Subpart A 60.2, shall not exceed a time period of ~~two~~ twelve hours and two hours, respectively, per occurrence. [40 CFR 60.8] Y
55. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [~~District Rule 2410 PSD-SJ-84-01]~~ Y
56. The ~~Regional Administrator~~ District shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in CO emissions above any allowable emissions limit stated in this permit. In addition,

the Regional Administrator District shall be notified in writing within 15 days of any such failure. [~~District Rule 2410 PSD-SJ-84-04~~] Y

57. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [~~District Rule 2410 PSD-SJ-84-04~~] Y
58. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [~~District Rule 2410 PSD-SJ-84-04~~] Y
59. Any requirements established by this permit for the gathering and reporting of information are not subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act (PRA) because this permit is not an "information collection request" within the meaning of 44 U.S.C. Subsections 3502(4) & (11), 3507, 3512, and 3518. Furthermore, this permit and any information gathering and reporting requirements established by this permit are exempt from OMB review under the PRA because it is directed to fewer than ten persons. [~~District Rule 2410, 44 U.S.C. Section 3502(4), (11) and 5 CFR Section 1320.5(a) and PSD-SJ-84-04~~] Y
60. At such times as specified by the USEPA District, the permittee operator shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, ~~the California ARB and the USEPA~~ a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee the operator, and adequate justification, ~~USEPA~~ the District may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [~~District Rule 2410 PSD-SJ-84-04~~] Y
61. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10 [~~District Rule 2410 PSD-SJ-84-04~~] Y
62. The USEPA District shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods

may be used with prior written approval from the USEPA District. [District Rule 2410 PSD-SJ-84-01] Y

63. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [District Rule 2410 PSD-SJ-84-01] Y
64. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [District Rule 2410 PSD-SJ-84-01] Y
65. This facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [District Rule 2410 PSD-SJ-84-01] Y
66. All correspondence as required by the PSD permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; and c) Compliance Division, SJVUAPCD. [District Rule 2410 PSD-SJ-84-01] Y

APPENDIX C

Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-88-1-20

LEGAL OWNER OR OPERATOR: KERN RIVER COGENERATION CO
MAILING ADDRESS: PO BOX 80478
BAKERSFIELD, CA 93380-0478

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: 32 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH DRY LOW NOX COMBUSTORS (KRCC UNIT #1): INCORPORATED TUNING START UP CONDITIONS INTO PSD PERMIT

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Combustion turbine generator (CTG) shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; 40 CFR 60.333(a); Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Except during periods exempted in Rule 4703, Section 5.3.1, operator shall not exceed a NOx emission rate of 3 ppmvd @ 15% O2, under load conditions, excluding thermal stabilization, reduced load periods, and tuning start-up periods. [40 CFR 60.332(a)(1) & 60.332 (a)(2) and District Rule 4703, 5.1.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-88-1-20 : Jul 30 2013 10:37AM - KARRSR : Joint Inspection NOT Required

5. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule, 2201, 2410 and 4703] Federally Enforceable Through Title V Permit
6. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [Rule 110 (Madera); District Rule 1081] Federally Enforceable Through Title V Permit
7. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072-80, D 3031-81, D 4084-82 or D 3246-81. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
8. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [40 CFR 60.334(b)(2)] Federally Enforceable Through Title V Permit
9. The HHV and LHV of the fuel shall be determined using ASTM D3588-91, ASTM 1826-88, OR ASTM 1945-81. [40 CFR 60.332(a),(b)] Federally Enforceable Through Title V Permit
10. Nitrogen oxides (NOx) concentrations shall be determined using EPA Method 7E or 20, and oxygen (O2) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit
11. The operator shall provide source test information annually regarding the exhaust gas NOx concentration corrected to 15% O2 (dry). [40 CFR 60.332(a),(b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
12. The operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703, 5.1.1. [40 CFR 60.332(a),(b) and 4703, 5.1.1] Federally Enforceable Through Title V Permit
13. Operations during periods of startup, shutdown, and tuning start-up shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [District Rules 2201, 2410 and 4703 and 40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
14. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
15. Records shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEM's that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3 and 40 CFR 60.7(b)] Federally Enforceable Through Title V Permit
16. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
17. The operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
18. Results of continuous emission monitoring must be averaged in accordance with the requirements of 40 CFR 60.13. [40 CFR 60.334(b),(c) and District Rule 4703, 5.0] Federally Enforceable Through Title V Permit
19. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2410, 2520, and 4703] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

20. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: Rules 404 (Madera), 406 (Fresno), 407 (Kings, Merced, San Joaquin, Stanislaus, Tulare, Kern); District Rule 1081, 4201, 1080, Section 6.5, 7.2, 8.0, 9.0, and 10.0; 40 CFR 60.332(c) and (d); 60.334 (b), (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
21. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: District Rule 4703, sections 5.0, 5.1.1, 6.2.1, 6.2.4, 6.3, 6.4.1, 6.4.3, 6.4.5, and 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
22. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following subsumed requirements: 40 CFR 60.332 (b); 60.335(a), (b), (c), and (e). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
23. Operator shall install, operate, and maintain in calibration a system which continuously measures and records control system operating parameters, elapsed time of operation, and exhaust gas NO_x concentration and O₂ or CO₂ concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703] Federally Enforceable Through Title V Permit
24. The NO_x and CO₂ CEMS shall meet the requirements in 40CFR60, Appendix B Performance Specifications 2 and 3 and Appendix F Procedure 1. [40 CFR 60.334(b)(1) and District Rules 1080, 6.3, 6.5, 6.6, & 7.2, and 4703, 6.2.3]
25. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)] Federally Enforceable Through Title V Permit
26. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
27. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
28. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
29. The written report for each calendar quarter shall also include: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in this permit. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
30. The CGT combustors shall be a dry low NO_x design capable of achieving 3 ppm or lower at 15% O₂. [District Rules 2410 and 4703] Federally Enforceable Through Title V Permit
31. Each CTG shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District Rule 2201] Federally Enforceable Through Title V Permit
33. When operating in cogeneration mode, exhaust gas ducting from CTG through HRSG's to the atmosphere shall be gas-tight. [District Rule 2201] Federally Enforceable Through Title V Permit
34. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

35. Each CTG shall have a fuel consumption monitor/recorder. [District Rules 2201 and 2410] Federally Enforceable Through Title V Permit
36. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO₂. [District Rule 2201] Federally Enforceable Through Title V Permit
37. HRSG exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081]
38. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Kern River Cogeneration Company. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CTG fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
40. Emission rates from CTG shall not exceed any of the following: PM₁₀ - 5.0 lb/hr, SO_x (as SO₂) - 0.9 lb/hr, or VOC - 12.0 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
41. Emission rates from CTG shall not exceed any of the following: PM₁₀ - 120.0 lb/day, SO_x (as SO₂) - 21.6 lb/day, NO_x (as NO₂) - 552.8 lb/day, VOC - 288.0 lb/day, or CO - 1056.0 lb/day. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
42. Emission from CTG, except during startup, shutdown, and tuning start-up, shall not exceed any of the following: NO_x (as NO₂) - 3 ppmvd @ 15% O₂, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O₂, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
43. During startup, shutdown, and tuning start-up periods, emissions shall not exceed any of the following: 140.0 lb/hr of NO_x on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201]
44. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
45. Daily emissions for the unit may be determined from the arithmetic mean of three, 40-minute test runs for NO_x and CO, multiplied by the appropriate factor. [District Rule 2520, 9.4.2 and District Rule 4703] Federally Enforceable Through Title V Permit
46. Source testing to determine NO_x and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
47. Performance testing shall be conducted annually to measure NO_x and CO emission concentrations using the following methods: EPA Methods 7E or 20 for NO_x emissions, EPA Methods 10 or 10B for CO emissions, EPA Methods 3, 3A or 20 for Oxygen content of the exhaust gas. The performance tests shall be performed between 90 and 100 percent of peak (or the highest physically achievable) load. [40 CFR 60.335(a), (b)(7) and District Rule 4703] Federally Enforceable Through Title V Permit
48. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit
49. Continuous emission monitoring system for NO_x as NO₂ and continuous monitoring system for CO & CO₂ shall serve each CTG flue gas stream during both simple cycle and cogeneration modes, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
50. All continuous emissions monitoring systems shall be calibrated and operated during both simple cycle and cogeneration modes according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

51. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
52. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
53. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
54. Startup and shutdown of CTG, as defined in 40 CFR, Subpart A 60.2, shall not exceed a time period of twelve hours and two hours, respectively, per occurrence. [40 CFR 60.8] Federally Enforceable Through Title V Permit
55. NO₂ and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
56. Daily records of NO₂ and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
57. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [District Rule 2410] Federally Enforceable Through Title V Permit
58. The District shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in CO emissions above any allowable emissions limit stated in this permit. In addition, the District shall be notified in writing within 15 days of any such failure. [District Rule 2410] Federally Enforceable Through Title V Permit
59. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [District Rule 2410] Federally Enforceable Through Title V Permit
60. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [District Rule 2410] Federally Enforceable Through Title V Permit
61. Any requirements established by this permit for the gathering and reporting of information are not subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act (PRA) because this permit is not an "information collection request" within the meaning of 44 U.S.C. Subsections 3502(4) & (11), 3507, 3512, and 3518. Furthermore, this permit and any information gathering and reporting requirements established by this permit are exempt from OMB review under the PRA because it is directed to fewer than ten persons. [44 U.S.C. Section 3502(4), (11) and 5 CFR Section 1320.5(a) and District Rule 2410] Federally Enforceable Through Title V Permit
62. At such times as specified by the District, operator shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from operator, and adequate justification, the District may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [District Rule 2410] Federally Enforceable Through Title V Permit
63. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10 [District Rule 2410] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

64. The District shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of District rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the District. [District Rule 2410] Federally Enforceable Through Title V Permit
65. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [District Rule 2410] Federally Enforceable Through Title V Permit
66. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [District Rule 2410] Federally Enforceable Through Title V Permit
67. This facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [District Rule 2410] Federally Enforceable Through Title V Permit
68. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
69. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (12/17/92), by using EPA method 9. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-88-2-21

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: KERN RIVER COGENERATION CO
MAILING ADDRESS: PO BOX 80478
BAKERSFIELD, CA 93380-0478

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: 32 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE GENERATOR (CTG) WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (KRCC UNIT #2): INCORPORATED TUNING START UP CONDITIONS INTO PSD PERMIT

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Combustion turbine generator (CTG) shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; 40 CFR 60.333(a); Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Except during periods exempted in Rule 4703, Section 5.3.1, operator shall not exceed a NOx emission rate of 3 ppmvd @ 15% O₂, under load conditions, excluding thermal stabilization, reduced load periods, and tuning start-up periods. [40 CFR 60.332(a)(1) & 60.332 (a)(2) and District Rule 4703, 5.1.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services
S-88-2-21 : May 15 2013 2:13PM - DAVIDSOS : Joint Inspection NOT Required

5. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
6. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [Rule 110 (Madera); District Rule 1081] Federally Enforceable Through Title V Permit
7. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072-80, D 3031-81, D 4084-82 or D 3246-81. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
8. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [40 CFR 60.334(b)(2)] Federally Enforceable Through Title V Permit
9. The HHV and LHV of the fuel shall be determined using ASTM D3588-91, ASTM 1826-88, OR ASTM 1945-81. [40 CFR 60.332(a),(b)] Federally Enforceable Through Title V Permit
10. Nitrogen oxides (NOx) concentrations shall be determined using EPA Method 7E or 20, and oxygen (O2) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit
11. The operator shall provide source test information annually regarding the exhaust gas NOx concentration corrected to 15% O2 (dry). [40 CFR 60.332(a),(b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
12. The operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703, 5.1.1. [40 CFR 60.332(a),(b) and 4703, 5.1.1] Federally Enforceable Through Title V Permit
13. Operations during periods of startup, shutdown, and tuning start-up shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
14. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
15. Records shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEM's that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3 and 40 CFR 60.7(b)] Federally Enforceable Through Title V Permit
16. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
17. The operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
18. Results of continuous emission monitoring must be averaged in accordance with the requirements of 40 CFR 60.13. [40 CFR 60.334(b),(c) and District Rule 4703, 5.0] Federally Enforceable Through Title V Permit
19. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2410, 2520, and 4703] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

20. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: Rules 404 (Madera), 406 (Fresno), 407 (Kings, Merced, San Joaquin, Stanislaus, Tulare, Kern); District Rule 1081, 4201, 1080, Section 6.5, 7.2, 8.0, 9.0, and 10.0; 40 CFR 60.332(c) and (d); 60.334 (b), (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
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26. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
27. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
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CONDITIONS CONTINUE ON NEXT PAGE

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42. Emission from CTG, except during startup, shutdown, and tuning start-up, shall not exceed any of the following: NO_x (as NO₂) - 3 ppmvd @ 15% O₂, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O₂, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
43. During startup, shutdown, and tuning start-up periods, emissions shall not exceed any of the following: 140.0 lb/hr of NO_x on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
44. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
45. Daily Emissions for the unit may be determined from the arithmetic mean of three, 40-minute test runs for NO_x and CO, multiplied by the appropriate factor. [District Rule 2520, 9.4.2 and District Rule 4703] Federally Enforceable Through Title V Permit
46. Source testing to determine NO_x and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
47. Performance testing shall be conducted annually to measure NO_x and CO emission concentrations using the following methods: EPA Methods 7E or 20 for NO_x emissions, EPA Methods 10 or 10B for CO emissions, EPA Methods 3, 3A or 20 for Oxygen content of the exhaust gas. The performance tests shall be performed between 90 and 100 percent of peak (or the highest physically achievable) load. [40 CFR 60.335(a), (b)(7) and District Rule 4703] Federally Enforceable Through Title V Permit
48. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit
49. Continuous emission monitoring system for NO_x as NO₂ and continuous monitoring system for CO & CO₂ shall serve each CTG flue gas stream during both simple cycle and cogeneration modes, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
50. All continuous emissions monitoring systems shall be calibrated and operated during both simple cycle and cogeneration modes according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

51. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
52. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
53. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
54. Startup and shutdown of CTG, as defined in 40 CFR, Subpart A 60.2, shall not exceed a time period of two hours and two hours, respectively, per occurrence. [40 CFR 60.8] Federally Enforceable Through Title V Permit
55. NO₂ and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
56. Daily records of NO₂ and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
57. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [District Rule 2410] Federally Enforceable Through Title V Permit
58. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in CO emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [District Rule 2410] Federally Enforceable Through Title V Permit
59. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [District Rule 2410] Federally Enforceable Through Title V Permit
60. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [District Rule 2410] Federally Enforceable Through Title V Permit
61. Any requirements established by this permit for the gathering and reporting of information are not subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act (PRA) because this permit is not an "information collection request" within the meaning of 44 U.S.C. Subsections 3502(4) & (11), 3507, 3512, and 3518. Furthermore, this permit and any information gathering and reporting requirements established by this permit are exempt from OMB review under the PRA because it is directed to fewer than ten persons. [44 U.S.C. Section 3502(4), (11) and 5 CFR Section 1320.5(a) and District Rule 2410] Federally Enforceable Through Title V Permit
62. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [District Rule 2410] Federally Enforceable Through Title V Permit
63. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [District Rule 2410] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

64. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [District Rule 2410] Federally Enforceable Through Title V Permit
65. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [District Rule 2410] Federally Enforceable Through Title V Permit
66. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [District Rule 2410] Federally Enforceable Through Title V Permit
67. This facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [District Rule 2410] Federally Enforceable Through Title V Permit
68. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
69. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (12/17/92), by using EPA method 9. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-88-3-20

LEGAL OWNER OR OPERATOR: KERN RIVER COGENERATION CO
MAILING ADDRESS: PO BOX 80478
BAKERSFIELD, CA 93380-0478

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: 32 TOWNSHIP: 28S RANGE: 28E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH DRY LOW NOX COMBUSTORS (KRCC UNIT #3): INCORPORATED TUNING START UP CONDITIONS INTO PSD PERMIT

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Combustion turbine generator (CTG) shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; 40 CFR 60.333(a); Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Except during periods exempted in Rule 4703, Section 5.3.1, operator shall not exceed a NOx emission rate of 3 ppmvd @ 15% O₂, under load conditions, excluding thermal stabilization, reduced load periods, and tuning start-up periods. [40 CFR 60.332(a)(1) & 60.332 (a)(2) and District Rule 4703, 5.1.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-88-3-20 : May 15 2013 2:13PM - DAVIDSOS : Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

5. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
6. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [Rule 110 (Madera); District Rule 1081] Federally Enforceable Through Title V Permit
7. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072-80, D 3031-81, D 4084-82 or D 3246-81. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
8. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [40 CFR 60.334(b)(2)] Federally Enforceable Through Title V Permit
9. The HHV and LHV of the fuel shall be determined using ASTM D3588-91, ASTM 1826-88, OR ASTM 1945-81. [40 CFR 60.332(a),(b)] Federally Enforceable Through Title V Permit
10. Nitrogen oxides (NOx) concentrations shall be determined using EPA Method 7E or 20, and oxygen (O2) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit
11. The operator shall provide source test information annually regarding the exhaust gas NOx concentration corrected to 15% O2 (dry). [40 CFR 60.332(a),(b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
12. The operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703, 5.1.1. [40 CFR 60.332(a),(b) and 4703, 5.1.1] Federally Enforceable Through Title V Permit
13. Operations during periods of startup, shutdown, and tuning start-up shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
14. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
15. Records shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEM's that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3 and 40 CFR 60.7(b)] Federally Enforceable Through Title V Permit
16. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
17. The operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
18. Results of continuous emission monitoring must be averaged in accordance with the requirements of 40 CFR 60.13. [40 CFR 60.334(b),(c) and District Rule 4703, 5.0] Federally Enforceable Through Title V Permit
19. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2410, 2520, and 4703] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

20. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: Rules 404 (Madera), 406 (Fresno), 407 (Kings, Merced, San Joaquin, Stanislaus, Tulare, Kern); District Rule 1081, 4201, 1080, Section 6.5, 7.2, 8.0, 9.0, and 10.0; 40 CFR 60.332(c) and (d); 60.334 (b), (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
21. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: District Rule 4703, sections 5.0, 5.1.1, 6.2.1, 6.2.4, 6.3, 6.4.1, 6.4.3, 6.4.5, and 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
22. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following subsumed requirements: 40 CFR 60.332 (b); 60.335(a), (b), (c), and (e). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
23. Operator shall install, operate, and maintain in calibration a system which continuously measures and records control system operating parameters, elapsed time of operation, and exhaust gas NO_x concentration and O₂ or CO₂ concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703] Federally Enforceable Through Title V Permit
24. The NO_x and CO₂ CEMS shall meet the requirements in 40CFR60, Appendix B Performance Specifications 2 and 3 and Appendix F Procedure 1. [40 CFR 60.334(b)(1) and District Rules 1080 and 4703] Federally Enforceable Through Title V Permit
25. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)] Federally Enforceable Through Title V Permit
26. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
27. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
28. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
29. The written report for each calendar quarter shall also include: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in this permit. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
30. The CGT combustors shall be a dry low NO_x design capable of achieving 3 ppm or lower at 15% O₂. [District Rules 2410 and 4703] Federally Enforceable Through Title V Permit
31. Each CTG shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
33. When operating in cogeneration mode, exhaust gas ducting from CTG through HRSG's to the atmosphere shall be gas-tight. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

34. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District Rule 2410] Federally Enforceable Through Title V Permit
35. Each CTG shall have a fuel consumption monitor/recorder. [District Rule 2201 and 2410] Federally Enforceable Through Title V Permit
36. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO₂. [District Rule 2201] Federally Enforceable Through Title V Permit
37. HRSG exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
38. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Kern River Cogeneration Company. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CTG fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
40. Emission rates from CTG shall not exceed any of the following: PM₁₀ - 5.0 lb/hr, SO_x (as SO₂) - 0.9 lb/hr, or VOC - 12.0 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
41. Emission rates from CTG shall not exceed any of the following: PM₁₀ - 120.0 lb/day, SO_x (as SO₂) - 21.6 lb/day, NO_x (as NO₂) - 552.8 lb/day, VOC - 288.0 lb/day, or CO - 1056.0 lb/day. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
42. Emission from CTG, except during startup, shutdown, and tuning start-up, shall not exceed any of the following: NO_x (as NO₂) - 3 ppmvd @ 15% O₂, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O₂, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
43. During startup, shutdown, and tuning start-up periods, emissions shall not exceed any of the following: 140.0 lb/hr of NO_x on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
44. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
45. Daily Emissions for the unit may be determined from the arithmetic mean of three, 40-minute test runs for NO_x and CO, multiplied by the appropriate factor. [District Rule 2520 and District Rule 4703] Federally Enforceable Through Title V Permit
46. Source testing to determine NO_x and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
47. Performance testing shall be conducted annually to measure NO_x and CO emission concentrations using the following methods: EPA Methods 7E or 20 for NO_x emissions, EPA Methods 10 or 10B for CO emissions, EPA Methods 3, 3A or 20 for Oxygen content of the exhaust gas. The performance tests shall be performed between 90 and 100 percent of peak (or the highest physically achievable) load. [40 CFR 60.335(a), (b)(7) and District Rule 4703] Federally Enforceable Through Title V Permit
48. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit
49. Continuous emission monitoring system for NO_x as NO₂ and continuous monitoring system for CO & CO₂ shall serve each CTG flue gas stream during both simple cycle and cogeneration modes, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

50. All continuous emissions monitoring systems shall be calibrated and operated during both simple cycle and cogeneration modes according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
51. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
52. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
53. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
54. Startup and shutdown of CTG, as defined in 40 CFR, Subpart A 60.2, shall not exceed a time period of two hours and two hours, respectively, per occurrence. [40 CFR 60.8] Federally Enforceable Through Title V Permit
55. NO₂ and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
56. Daily records of NO₂ and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
57. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [District Rule 2410] Federally Enforceable Through Title V Permit
58. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in CO emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [District Rule 2410] Federally Enforceable Through Title V Permit
59. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [District Rule 2410] Federally Enforceable Through Title V Permit
60. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [District Rule 2410] Federally Enforceable Through Title V Permit
61. Any requirements established by this permit for the gathering and reporting of information are not subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act (PRA) because this permit is not an "information collection request" within the meaning of 44 U.S.C. Subsections 3502(4) & (11), 3507, 3512, and 3518. Furthermore, this permit and any information gathering and reporting requirements established by this permit are exempt from OMB review under the PRA because it is directed to fewer than ten persons. [44 U.S.C. Section 3502(4), (11) and 5 CFR Section 1320.5(a) and District Rule 2410] Federally Enforceable Through Title V Permit
62. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [District Rule 2410] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

63. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10 [District Rule 2410] Federally Enforceable Through Title V Permit
64. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [District Rule 2410] Federally Enforceable Through Title V Permit
65. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [District Rule 2410] Federally Enforceable Through Title V Permit
66. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [District Rule 2410] Federally Enforceable Through Title V Permit
67. This facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [District Rule 2410] Federally Enforceable Through Title V Permit
68. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
69. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (12/17/92), by using EPA method 9. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-88-4-22

LEGAL OWNER OR OPERATOR: KERN RIVER COGENERATION CO
MAILING ADDRESS: PO BOX 80478
BAKERSFIELD, CA 93380-0478

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: 32 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE WITH DRY LOW NOX COMBUSTORS (KRCC UNIT #4): INCORPORATED TUNING START UP CONDITIONS INTO PSD PERMIT

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Combustion turbine generator (CTG) shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; 40 CFR 60.333(a); Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Except during periods exempted in Rule 4703, Section 5.3.1, operator shall not exceed a NOx emission rate of 3 ppmvd @ 15% O2, under load conditions, excluding thermal stabilization, reduced load periods, and tuning start-up periods. [40 CFR 60.332(a)(1) & 60.332 (a)(2) and District Rule 4703, 5.1.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-88-4-22 : May 15 2013 2:13PM - DAVIDSOS : Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

5. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
6. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [Rule 110 (Madera); District Rule 1081] Federally Enforceable Through Title V Permit
7. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072-80, D 3031-81, D 4084-82 or D 3246-81. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
8. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [40 CFR 60.334(b)(2)] Federally Enforceable Through Title V Permit
9. The HHV and LHV of the fuel shall be determined using ASTM D3588-91, ASTM 1826-88, OR ASTM 1945-81. [40 CFR 60.332(a),(b)] Federally Enforceable Through Title V Permit
10. Nitrogen oxides (NO_x) concentrations shall be determined using EPA Method 7E or 20, and oxygen (O₂) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit
11. The operator shall provide source test information annually regarding the exhaust gas NO_x concentration corrected to 15% O₂ (dry). [40 CFR 60.332(a),(b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
12. The operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703, 5.1.1. [40 CFR 60.332(a),(b) and 4703, 5.1.1] Federally Enforceable Through Title V Permit
13. Operations during periods of startup, shutdown, and tuning start-up shall not constitute representative conditions for the purpose of a NO_x performance test nor shall NO_x emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
14. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
15. Records shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEM's that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3 and 40 CFR 60.7(b)] Federally Enforceable Through Title V Permit
16. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
17. The operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
18. Results of continuous emission monitoring must be averaged in accordance with the requirements of 40 CFR 60.13. [40 CFR 60.334(b),(c) and District Rule 4703, 5.0] Federally Enforceable Through Title V Permit
19. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2410, 2520 and 4703, 6.2.4] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

20. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: Rules 404 (Madera), 406 (Fresno), 407 (Kings, Merced, San Joaquin, Stanislaus, Tulare, Kern); District Rule 1081, 4201, 1080, Section 6.5, 7.2, 8.0, 9.0, and 10.0; 40 CFR 60.332(c) and (d); 60.334 (b), (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
21. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: District Rule 4703, sections 5.0, 5.1.1, 6.2.1, 6.2.4, 6.3, 6.4.1, 6.4.3, 6.4.5, and 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
22. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following subsumed requirements: 40 CFR 60.332 (b); 60.335(a), (b), (c), and (e). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
23. Operator shall install, operate, and maintain in calibration a system which continuously measures and records control system operating parameters, elapsed time of operation, and exhaust gas NO_x concentration and O₂ or CO₂ concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703] Federally Enforceable Through Title V Permit
24. The NO_x and CO₂ CEMS shall meet the requirements in 40CFR60, Appendix B Performance Specifications 2 and 3 and Appendix F Procedure 1. [40 CFR 60.334(b)(1) and District Rules 1080, 6.3, 6.5, 6.6, & 7.2, and 4703, 6.2.3] Federally Enforceable Through Title V Permit
25. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)] Federally Enforceable Through Title V Permit
26. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
27. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
28. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
29. The written report for each calendar quarter shall also include: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in this permit. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
30. The CGT combustors shall be a dry low NO_x design capable of achieving 3 ppm or lower at 15% O₂. [District Rules 2410 and 4703] Federally Enforceable Through Title V Permit
31. Each CTG shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District Rule 2201] Federally Enforceable Through Title V Permit
33. When operating in cogeneration mode, exhaust gas ducting from CTG through HRSG's to the atmosphere shall be gas-tight. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

34. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Each CTG shall have a fuel consumption monitor/recorder. [District Rules 2201 and 2410] Federally Enforceable Through Title V Permit
36. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO₂. [District Rule 2201] Federally Enforceable Through Title V Permit
37. HRSG exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
38. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Kern River Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit
39. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CTG fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
40. Emission rates from CTG shall not exceed any of the following: PM₁₀ - 5.0 lb/hr, SO_x (as SO₂) - 0.9 lb/hr, or VOC - 12.0 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
41. Emission rates from CTG shall not exceed any of the following: PM₁₀ - 120.0 lb/day, SO_x (as SO₂) - 21.6 lb/day, NO_x (as NO₂) - 552.8 lb/day, VOC - 288.0 lb/day, or CO - 1056.0 lb/day. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
42. Emission from CTG, except during startup, shutdown, and tuning start-up, shall not exceed any of the following: NO_x (as NO₂) - 3 ppmvd @ 15% O₂, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O₂, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
43. During startup and shutdown, emissions shall not exceed any of the following: 140.0 lb/hr of NO_x on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
44. During startup, shutdown, and tuning start-up periods, emissions shall not exceed any of the following: 140.0 lb/hr of NO_x on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
45. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
46. Daily Emissions for the unit may be determined from the arithmetic mean of three, 40-minute test runs for NO_x and CO, multiplied by the appropriate factor. [District Rule 2520, 9.4.2 and District Rule 4703] Federally Enforceable Through Title V Permit
47. Source testing to determine NO_x and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
48. Performance testing shall be conducted annually to measure NO_x and CO emission concentrations using the following methods: EPA Methods 7E or 20 for NO_x emissions, EPA Methods 10 or 10B for CO emissions, EPA Methods 3, 3A or 20 for Oxygen content of the exhaust gas. The performance tests shall be performed between 90 and 100 percent of peak (or the highest physically achievable) load. [40 CFR 60.335(a), (b)(7) and District Rule 4703, 6.3.1, 6.4.1, 6.4.2, & 6.4.3] Federally Enforceable Through Title V Permit
49. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

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50. Continuous emission monitoring system for NO_x as NO₂ and continuous monitoring system for CO & CO₂ shall serve each CTG flue gas stream during both simple cycle and cogeneration modes, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
51. All continuous emissions monitoring systems shall be calibrated and operated during both simple cycle and cogeneration modes according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
52. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
53. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
54. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rules 1080 and 2410] Federally Enforceable Through Title V Permit
55. Startup and shutdown of CTG, as defined in 40 CFR, Subpart A 60.2, shall not exceed a time period of two hours and two hours, respectively, per occurrence. [40 CFR 60.8] Federally Enforceable Through Title V Permit
56. NO₂ and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
57. Daily records of NO₂ and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
58. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [District Rule 2410] Federally Enforceable Through Title V Permit
59. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in CO emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [District Rule 2410] Federally Enforceable Through Title V Permit
60. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [District Rule 2410] Federally Enforceable Through Title V Permit
61. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [District Rule 2410] Federally Enforceable Through Title V Permit
62. Any requirements established by this permit for the gathering and reporting of information are not subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act (PRA) because this permit is not an "information collection request" within the meaning of 44 U.S.C. Subsections 3502(4) & (11), 3507, 3512, and 3518. Furthermore, this permit and any information gathering and reporting requirements established by this permit are exempt from OMB review under the PRA because it is directed to fewer than ten persons. [44 U.S.C. Section 3502(4), (11) and 5 CFR Section 1320.5(a) and District Rule 2410] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

63. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [District Rule 2410] Federally Enforceable Through Title V Permit
64. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10 [District Rule 2410] Federally Enforceable Through Title V Permit
65. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [District Rule 2410] Federally Enforceable Through Title V Permit
66. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [District Rule 2410] Federally Enforceable Through Title V Permit
67. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [District Rule 2410] Federally Enforceable Through Title V Permit
68. This facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 84-01] Federally Enforceable Through Title V Permit
69. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
70. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (12/17/92), by using EPA method 9. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit

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APPENDIX E

Compliance Certification

**San Joaquin Valley
Unified Air Pollution Control District**

RECEIVED
APR 08 2013
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Southern Region

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

☒ PSD PERMIT MODIFICATION

COMPANY NAME: Kern River Cogeneration Company	FACILITY ID: S - 88
1. Type of Organization: <input type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input checked="" type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name: Chevron Global Power Co./Edison Mission Operations & Maintenance, Inc.	
3. Agent to the Owner: Neil E. Burgess, Executive Director	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):

- ☒ Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- ☒ Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- ☒ Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- ☒ Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:


Signature of Responsible Official

4/5/13
Date

Neil E. Burgess

Name of Responsible Official (please print)

Executive Director

Title of Responsible Official (please print)